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THE VOGUE IN HOME LIGHTING

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The Vogue In Home Lighting

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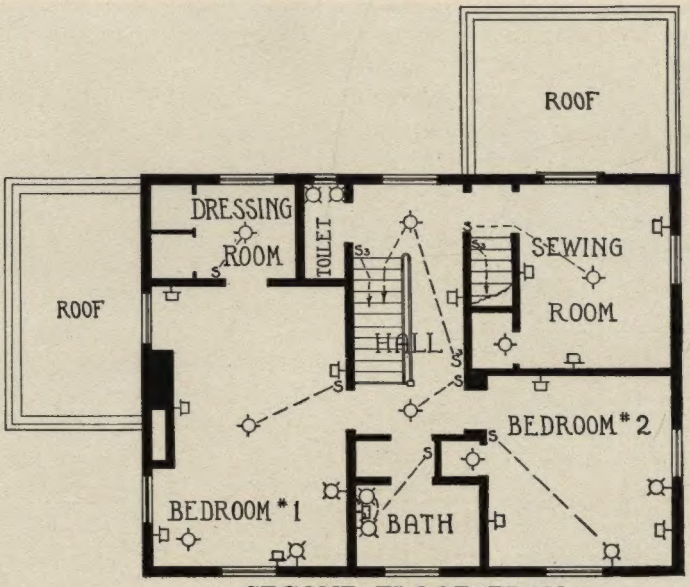
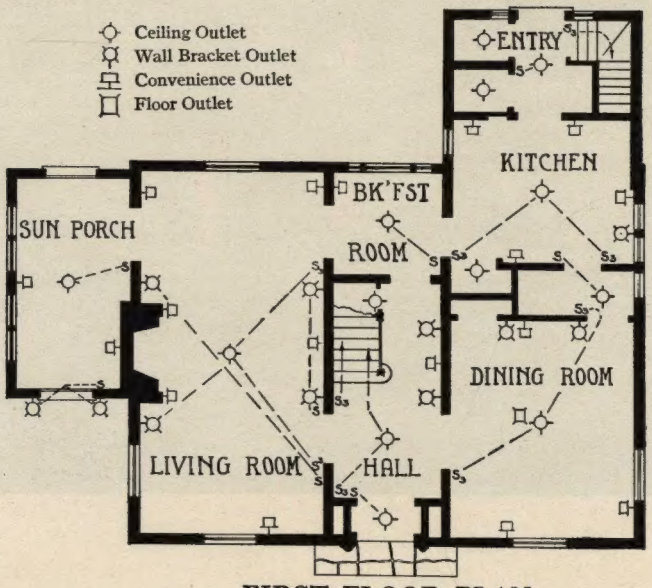
WIRING PLAN FOR A TYPICAL MODERN HOME



SECOND FLOOR PLAN



FIRST FLOOR PLAN

THE VOGUE IN HOME LIGHTING

EVERY home is a domain whose influence and destinies are guided and administered by its occupants—the place of retreat from things commercial and harassing, the spot of rest, relaxation or play. The home is the visible expression of our inner life, and the example of our good taste and education. In the home we spend most of our hours of study or of play, and most of these hours are ones when artificial lighting must be provided. Most of the worth-while part of our lives is spent under man-made illuminants, and to really enrich and enjoy these hours, we are greatly dependent upon the quantity, quality and position of these illuminants. Good home lighting is a potent influence on health and comfort.

The results already obtained in lighting are good, comparing the homes of today with those of our fathers, yet pitifully inadequate and amateurish when one learns what wonderful possibilities are still latent in modern electric illumination. We are just beginning to learn the possibilities of decorating the home with well placed light; of gratifying our senses with tinted lights; of preserving our eyes and our nerves with sufficient light; of calling upon the electric bulb, as an Aladdin's lamp, to make wishes come true.

Light not only reveals objects to the human eye, but also gives expression to the decorative scheme of a room. The lighting equipment should, therefore, harmonize with the architecture and furnishings, and the resultant illumination at the same time provide pleasing effects. Not solely as some decorative fitment should the units be chosen; keep in mind that their real purpose is to supply useable light. Liberally adequate for adolescent eyes, this light should rest and soothe adult eyes.

In building a home, the lighting should not be considered as an afterthought, but rather as one of the important items for which at least two or three percent of the total expenditure should be set aside. When renting or buying a home, notice the lighting equipment.

The purpose of this bulletin is to show how an average home of modern design should be wired and lighted so as to obtain wholly satisfactory illumination and complete enjoyment of the various electrical features. The methods given are not the sole means, but they are good practical ones. Each room is treated separately, having a floor plan diagram explaining the location of the lighting and convenience outlets as well as the control switches. Guiding suggestions are given as to the most suitable types of lighting fixtures (hereinafter termed luminaires), including, since they form the foundation of a lighting plan, recommendations of the proper Mazda lamps to be used.

LIVING ROOM

Fig. 1—Wall brackets in harmony with the center luminaire together with the table lamp complete an ideal arrangement

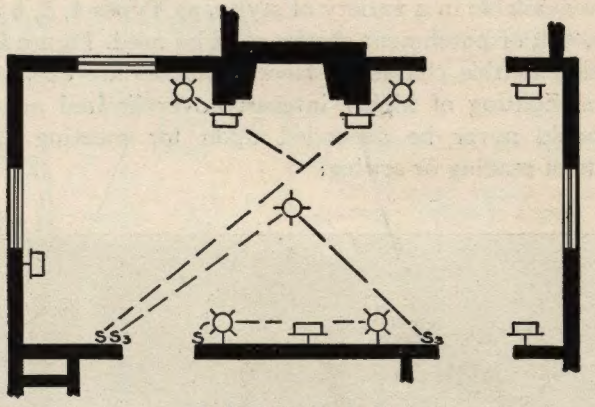
Satisfactory illumination in the living room is dependent upon a flexible lighting installation, capable of taking care of a variety of requirements. While a soft subdued light with bright areas for reading and sewing will ordinarily be sufficient, there should be means of flooding the entire room when occasion demands. The lighting equipment should harmonize in design and style with the other interior decorations. No other fitment can be as beautiful. Night-time lighting results should typify the usage of this room: cozy fireside warmth for reading from rose and amber shaded bridge lamps; the flood of sunshine for children's parties; or local highlights from shielded brackets at any time.

An adequate general broadcast illumination of uniform intensity is preferred by some, for which luminaires of Type 1 or 2, and more especially 3, may be used. Wall brackets, as shown in Figure 1 will attractively supplement a center luminaire of corresponding design.

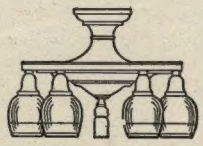
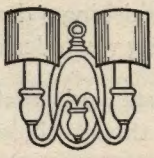
In other homes, especially those with low ceilings, a clear, unbroken expanse with no ceiling luminaire is preferred. While not sufficient

Fig. 2—A flexible lighting installation is furnished in this room by a liberal use of wall brackets and portable lamps. Note the unique lighting effect silhouetting the ship over the fireplace

LIVING ROOM RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
 1	25 or 40 Watt All-Frosted Lamps	Mount at or close to ceiling. Use shades of diffusing glass or other material to hide the bright lamp filament and deep enough to conceal lamps. Pendent shades should be slightly narrower at the bottom, particularly if clear bulb lamps are used.
2	25 Watt Round All-Frosted Lamps	Suspend not less than 6 feet 6 inches above floor. Shades of silk, parchment or glass should be used to shield the light source and soften shadows. If shades sufficiently conceal the lamps from view the less expensive S bulb (straight side) lamps may be used.
3	100 or 150 Watt Clear Lamp	Suspend not less than 6 feet 6 inches above floor. If possible, suspend so as to illuminate entire ceiling. When luminaire is suspended by chains attached to rim of bowl, white Mazda lamps should be used. These diffusing bulb lamps will soften and reduce ceiling shadows.
 4	15 Watt Round All-Frosted Lamps	Locate outlet 5 feet 6 inches above the floor. Shields should have sufficient curvature to properly conceal the lamps. If required for other than color decoration, use 25-watt lamps. The straight side bulbs are suitable in the deeper shields or shades.

for all requirements, wall brackets will form attractive decorations and furnish a low level of general illumination around the room edges. These brackets are available in a variety of styles, as Types 4, 5, 6 and 7, with which glass, silk or parchment shades may be used. Figure 2 illustrates an installation of this character. Here portables are expected to take care of local lighting of higher intensity over limited areas, for side brackets should never be depended upon for meeting the lighting requirements of reading or sewing.

Fig. 3—Floor lamps are the sole means of lighting this room. Upright reflectors direct a greater portion of the light to the ceiling while lamps beneath the shades provide local illumination for reading and sewing

Regardless of the type of lighting provided, a liberal number of convenience or appliance outlets should be installed for floor and table lamps. Gratifying and adequate results may be obtained solely by the use of portables. If these are equipped with large lamp bulbs (the Mazda Type C) and have silvered reflectors directing the light to the ceiling, general illumination may be provided as shown in Figure 3. These units may have additional smaller frosted Mazda lamps for furnishing a downward component of light and may be used for local lighting when desired.

In any of the various methods suggested, good taste and comfort demand that all lamp bulbs be shaded from view, even though these be round and decorative bulbs, frosted or tinted.

LIVING ROOM RECOMMENDATIONS—Continued

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
5	25 Watt Round All-Frosted Lamp	Locate outlet 5 feet 6 inches above the floor. Never use lamp bulbs unshielded. On this and similar types of bracket, a canopy switch is a great convenience.
6	25 or 40 Watt Clear Lamp	Locate outlet 5 feet 6 inches above the floor. Shades should have sufficient diffusing quality to eliminate bright spot opposite lamp filament. They should also be deep enough to completely hide the lamp bulb.
7	25 or 40 Watt All-Frosted Lamp	Locate outlet 6 feet above the floor. Lamps should not project below the glassware. Pendent shades should be slightly narrower at the bottom, if using clear lamps.
8	15 Watt Round All-Frosted Lamp	Will serve as pleasing decoration for mantle or bookcases. If used on a hall table, 25-watt frosted lamp bulbs are preferable.

Adequate and pleasing illumination can be secured by the liberal use of portable lamps. Suggestions insuring satisfactory results with portables are given on page 30.

WIRING

The switching should provide for control of at least one luminaire from every important entrance. The diagram illustrates a method of controlling center luminaire by three-way switches at each door.

Double convenience outlets should be installed in the baseboard of each wall section to assure easily accessible connections for portable lamps with any furniture arrangement. Provide an outlet waist high for vacuum sweeper or appliance attachment.

Convenience outlets should be provided on mantle for decorative luminaires, temporary holiday decorative lighting, fans, etc.

A floor outlet is recommended where portable lamps are to be used on a center table.

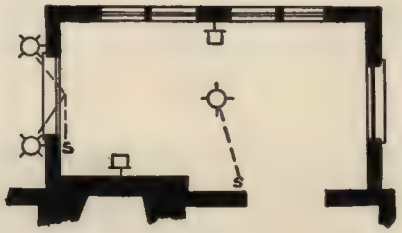
SUN PORCH

Lighting in the sun porch is similar to that in the living room. Portable lamps of the bridge or floor types will serve for reading, while general widespread illumination when required, as for games, may best be supplied by a center ceiling luminaire. A decorative enclosing glass globe, Type 9, mounted on the ceiling, will be most suitable here.

Fig. 4—A flood of light from the ceiling luminaire with an adjustable bridge lamp for reading and a glow of welcoming light from the floor lamp makes evening more cheerful than day

Attractive and appropriate luminaires simulating flower baskets in which lamps are concealed, may also be artfully employed. Excellent service can be rendered by shallow inverted bowls, Type 10, of parchment or glass, shielding the lamps and diffusing their light. With such units, the ceiling paper or paint must be no darker than a cream color. Particularly pleasing units for the sun porch are available in the form of imitation wicker baskets, but whatever the style of ceiling luminaire, it should rarely be depended upon for close visual work, sewing, or studying. Neither does it alone give an atmosphere of coziness.

SUN PORCH RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
9	50 or 75 Watt Clear Lamp	Mount at ceiling. Have glass just dense enough to diffuse the light. No ventilating hole is necessary with the proper size of globe.
10	75 or 100 Watt Clear Lamp	Suspend at least 6 feet 6 inches above floor, where a light colored ceiling is provided. Use the white diffusing bulb lamps if ceiling shadows are visible.

Satisfactory illumination can be secured here as in the living room by a liberal use of portable lamps. See page 30 for suggestions.

See luminaire type 25 for an entrance suggestion.

WIRING

The center luminaire should be controlled by a wall switch. Each important wall section should be provided with a double convenience outlet for portable lamps. If this room opens on a terrace or an outside porch, be sure to provide an outlet on the outside of the doorway.

DINING ROOM

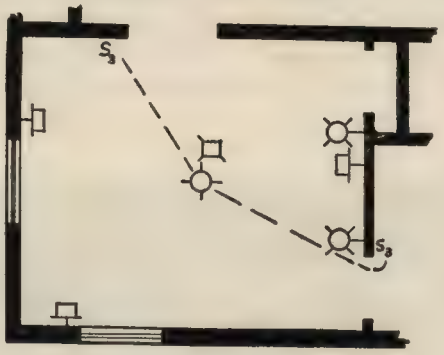
In the dining room the table should be the most intensely illuminated area. This bright spot holds the attention of the diners and the low intensity in the surrounding parts of the room cozily hems them in. Naturally, the best way to accomplish this is to suspend the luminaire directly over the table. Care should be taken, however, to see that the lighting equipment is properly mounted. If too low, it will obstruct

Fig. 5—The dining room dome insures a high intensity on the table with a soft general illumination throughout the room and on the faces of the diners.

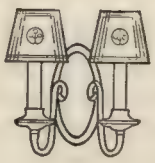
vision, and if too high may permit direct rays of light to strike the eyes of persons seated at the table. The hostess or housekeeper of discriminating taste will wish her silver and linen to appear brilliantly white—hence, strong, direct, uncolored light. She will also seek to have a warm soft illumination of the faces of the diners—hence, the less strong transmitted light of pink, rose or amber tints.

A luminaire of Type 11, as shown in Figure 5, will achieve the above effects. The opening in the bottom of the globe permits direct light

DINING ROOM RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
11	75 or 100 Watt White Lamp	Suspend luminaire above the line of vision of persons seated at table. A mounting height of 24 to 26 inches from the bottom of the luminaire to top of table will fulfill the above requirements.
12	75 or 100 Watt White Lamp	Suspend luminaire 24 to 26 inches above table top. With open bottom dome of this type care should be taken that no direct light strikes the eyes of persons seated at the table. Keep bulbs well up in the dome.
13	25 Watt Round All-Frosted Lamps	Suspend with bottom of shades 40 to 50 inches above table top. Glass shades will give the most satisfactory results. If they sufficiently conceal the lamps, the less expensive S bulbs may be employed.
 14	15 or 25 Watt Round All-Frosted Lamp	Locate outlet 5 feet 6 inches above the floor. Brackets should be used only to supplement center luminaire and should be of the same design. The 15-watt lamps will be sufficient for double brackets, while the 25-watt size should be used for the single type.

to fall on the table, brightly illuminating it while the remainder of the room is flooded with light, pleasingly diffused and tinted by the globe.

Figure 6 illustrates the use of luminaire Type 12. Here, too, the maximum light is directed to the table, while a soft, well diffused illumination is provided throughout the rest of the room. These modern domes of delicately colored glassware insure attractive units and should not be

Fig. 6—The table becomes the center interest when illuminated by a delicately colored glass dome which is equally attractive when unlighted

confused with the unsightly old-fashioned shallow domes of stained or alleged "art" glass.

The suspended candelabra luminaire, Type 13, is an attractive unit now in popular favor. These may be supplemented as in Figure 7 by sidewall lights of similar design. In addition to serving as pleasing touches of warm color, wall brackets are particularly useful in providing illumination around the sides of large rooms, either supplementing the table lighting, or for dances or festivities, when the table dome is raised.

DINING ROOM RECOMMENDATIONS—Continued

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
15	15 or 25 Watt Clear Lamp	Locate outlet 5 feet 6 inches above the floor. Brackets of this type will attractively supplement a center dome. Glassware should be of same design.
16	15 Watt Round All-Frosted Lamp	Electric candlesticks using 25-watt lamps may furnish adequate table illumination. Where used merely for decoration on table or buffet, 15-watt lamps will be sufficient.

WIRING

The center luminaire should be controlled by three-way switches located in positions readily accessible from the kitchen or hall.

A floor outlet should be provided in center of room for table appliances and electric candlesticks.

Wired furniture can be used to great advantage in the dining room, resulting in added convenience and neatness. Convenience outlets provided on the buffet and serving table permit the use of the electric percolator and similar appliances.

A convenience outlet should be installed in each wall section for electrical appliances, for serving table and electric candlesticks on buffet or to provide connections for wired furniture.

They should never be depended upon, however, to light the table nor the entire room. If unshaded, by either individual lamp shades or by an encircling cylindrical band, the illumination is harsh and trying. Glass and parchment shades (not too narrow) now available for these candle fixtures should be used in preference to thin silk shades.

For special occasions a unique lighting effect can be obtained by the use of electric table candles. When a sufficient number are used, properly shaded, these provide a novel means of obtaining good lighting on the

table top with pleasing diffused illumination upon the diners' faces. Such lighting requires that the table be wired, or an outlet provided beneath it.

Electric candlesticks or torcheres on either the sideboard or serving table will add color as vivid ornaments if well shaded to eliminate objectionable brightness.

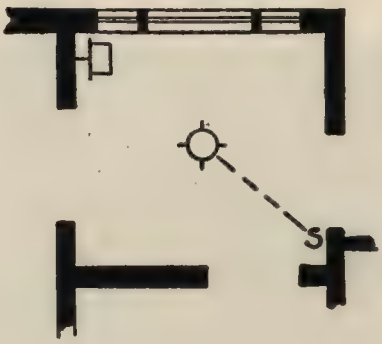
The temptation to use the dining room luminaire as a source of current for table appliances can be avoided by providing suitable outlets for this purpose.

Fig. 7—A well shaded candelabra luminaire with wall brackets to match give this dining room good lighting on the table top in addition to broadcasting light throughout the entire room

BREAKFAST ROOM

The charm of simplicity of the breakfast room should be reflected in the lighting equipment. Cheering color tones are an especial asset. Here, as in the dining room, light should be concentrated on the table from a luminaire located directly above. Most satisfactory results can be obtained by using a small dome, preferably having a brightly decorated glass or parchment shade. Here, and in similar locations, the use of small bowls or globes enclosing large lamps, is to be deprecated.

BREAKFAST ROOM RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
17	50 or 75 Watt White Lamp	Locate outlet over breakfast table, suspending luminaire 26 to 30 inches above top of table.

WIRING

Provide wall switch control for luminaire.

When table is located adjacent to wall install a double convenience outlet slightly above table top for electric appliances. With other furniture arrangement, having table in center of room, a floor outlet should be provided, as in the Dining Room.

KITCHEN

The lighting of the kitchen should be considered solely from the utilitarian point of view. This room, workshop though it is, may be brightened and made cheerful; and all of its operations certainly deserve a flood of light facilitating sure, rapid movement, and inducing cleanliness. The many duties performed in the kitchen require good illumination to its uttermost corners. This can easily be obtained by means of a

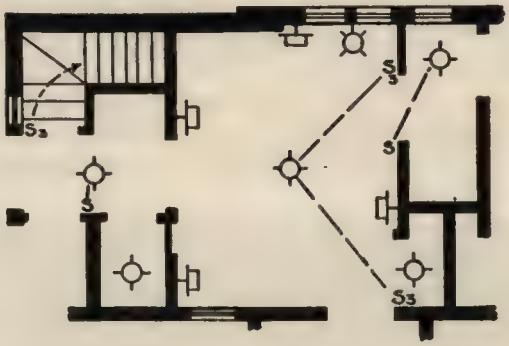
Fig. 8—Night view of an ideal kitchen lighting installation where an even illumination makes for efficiency and cleanliness. The luminaires at the range and sink eliminate any possibility of annoying shadows

totally enclosing, diffusing glass unit mounted at the center of the ceiling. Be sure such a globe is not a heavy absorber of light, and that it will not easily collect dust.

Except in very large kitchens, one luminaire similar to Type 18 will give excellent service. Light colored walls and ceilings not only present a sanitary appearance, but insure an efficient light utilization and a more even distribution. Dark surfaces absorb light as sand soaks up water.

In such places as at the sink and stove, it is advisable to have an illumination of high intensity, eliminating any possible shadows cast by the person. This can best be accomplished by the use of a sturdy wall bracket, Type 19, or, where structural features prevent a wall attachment, then use a pendent luminaire such as Type 20.

KITCHEN RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
18	100 or 150 Watt Clear Lamp	Mount at ceiling. Maximum diameter of enclosing globe should be not less than 10 inches. Glassware should diffuse the light so that there is no bright spot opposite the lamp. A 100-watt lamp will be sufficient for rooms smaller than 12 feet by 12 feet. If using the daylight blue lamp, select the 150-watt size.
19	50 Watt White Lamp	Locate outlet over sink, 5 feet 6 inches above the floor. Insure against breakage by keeping bracket short, or employing sturdy glass or white enameled metal reflector.
20	50 Watt White Lamp	Where bracket cannot be mounted on wall over sink, suspend luminaire of this type so that bottom of luminaire is 6 feet above the floor. In pantries, storerooms and other small rooms adjoining the kitchen, mount luminaire of this type close to ceiling.

WIRING

Control ceiling lights by wallswitches, using three-way switches for center luminaire. Provide a convenience outlet over the sink and at least two others waist high for appliances. Wall outlets should be provided adjacent to refrigerator and exhaust fan locations. A special power outlet should be provided for electric ranges.

HALLS AND ENTRANCES

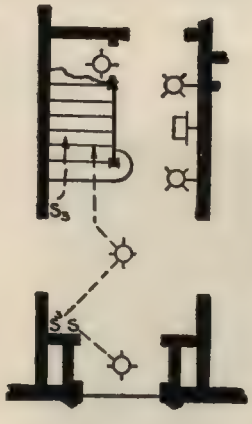
A welcoming spirit of hospitality should be the predominating note in the furnishing of the hall and entrance. Lighting can be made a great asset in creating such a charm.

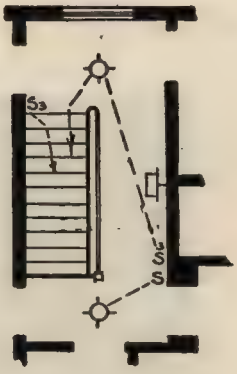
The vestibule or reception type of hall may be equipped with a luminaire of Type 21, which offers a more formal decoration and should be in harmony with the hall furnishings. In such small hallways as are

Fig. 9—Harmony of lighting equipment and architecture make this reception hall doubly attractive

open directly to the dining or living room a less formal luminaire, such as Type 22, mounted on the ceiling, will give excellent satisfaction. Where hall mirrors are used, an additional decorative touch can be added by installing brackets of Type 23, one on each side of the mirror. The small upstairs hall will be adequately lighted by a Type 24 luminaire. This should be so located that the stairs as well as the hall will be illuminated. In long halls, or where structural features warrant, two of these luminaires should be used. A table portable on the lower hall stand will be useful for a night light, while a floor portable slightly back from the head of the stairs may serve to light the stair approach.

HALL AND ENTRANCE RECOMMENDATIONS





LIGHTING

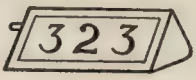
TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
21	25 or 40 Watt Round All-Frosted Lamp	Suspend 6 feet 6 inches to 7 feet above the floor. Clear bulb lamps may be used in luminaires having diffusing glassware.
22	25 Watt All-Frosted Lamp	Mount at ceiling. Where no shades, or those of a shallow type are employed, round bulb all-frosted lamps should be used.
23	15 Watt Round All-Frosted Lamp	Will furnish pleasing decoration when located at each side of hall mirror.

A porch which serves merely as an entrance may have its appearance enhanced by the use of a luminaire such as Type 25 on each side of the door. On larger porches which sometimes serve as an outdoor room, a lantern similar to Type 26, or an enclosing globe, should be used. In suburban districts an illuminated house number is always appreciated by the visitor.

Fig. 10—The welcoming spirit of this entrance is enhanced by the wall lanterns which add to its charm

HALL AND ENTRANCE RECOMMENDATIONS

Continued

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
24	25 or 40 Watt Round All-Frosted Lamp	Mount at ceiling on second floor. A similar unit of plain design will be suitable for closets.
25	15 or 25 Watt All-Frosted Lamp	Locate on each side of entrance. Use the S bulb clear lamp if the glassware is diffusing.
26	15 or 25 Watt All-Frosted Lamp	Suspend in entrance vestibule. Use a clear lamp if glassware is diffusing.
 27	15 Watt Clear Lamp	Illuminated house number should be located in prominent position, especially in suburban localities.

WIRING

Entrance and first floor lights should be controlled by switches located adjacent to latch side of door. At least one luminaire on each floor should be controlled by three-way switches located in a group adjacent to the first floor entrance and to the master's bedroom on the second floor.

Convenience outlets should be located waist high in each hall for vacuum cleaner, and table lamps used for night lights.

BEDROOMS

The controlling factor in planning the lighting in the bedroom is the location, and also the probable future location of the furniture. The principal illumination is required at the dresser, with the luminaires so placed that the light will come to the face from both sides, thus a preferable way is to locate wall brackets on each side of the mirror. In the average small bedroom sufficient general lighting will be provided throughout

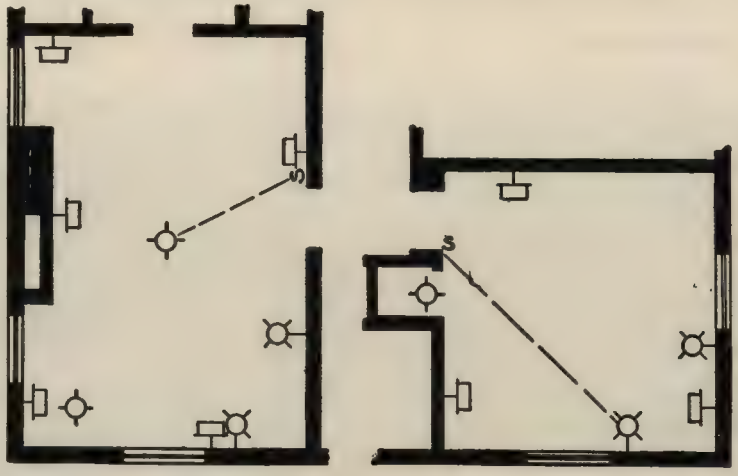
Fig. 11—Excellent lighting of the face is obtained at the bureau and dressing table when an installation as shown in this bedroom is used. The upright wall brackets adequately illuminate the entire room except for reading or sewing

the room by these luminaires, supplemented by a bedside portable, or a headboard reading lamp.

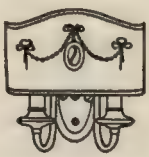
While a variety of types and styles of wall brackets are available, the most satisfaction will be obtained from those similar to Type 28. Upright glass shades of this character insure efficient utilization of the light by directing the reflected portion of it to the ceiling, where it is diffused to all parts of the room. Brackets of Types 29 and 30 are also suitable for small bedrooms.

Where it is impossible, because of structural features, to locate brackets on each side of the dresser, or where using vanity tables having

BEDROOM RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
28	25 or 40 Watt Clear Lamp	One of these luminaires on each side of the bureau will provide adequate illumination for the majority of bedrooms. Install outlets 5 feet 6 inches above floor.
29	25 or 40 Watt Round All-Frosted Lamp	Install outlet 5 feet 6 inches above floor. Provide shield which will adequately shade lamp at sides. At least two brackets should be provided, locating one on each side of the bureau.
 30	25 Watt Round All-Frosted Lamp	In large bedrooms this type of bracket should be used, installing at least two outlets 5 feet 6 inches above the floor. Single or double shields may be provided. The S bulb lamps are satisfactory if well shielded.

three section mirrors, a pendent dome Type 31 will light the table top and the face. Figure 11 shows a typical installation of this character.

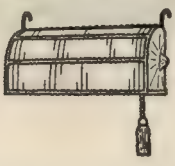
When general illumination from ceiling units is desired, or in larger bedrooms where such equipment is necessary, a luminaire of Type 32 or 33 is recommended.

Fig. 12—Wall brackets and a bed lamp supplementing the center luminaire insure satisfactory illumination in this room

These should, however, always be supplemented as shown in Figure 12 by wall brackets at the bureau and dressing table.

In the nursery or children's room luminaires should be chosen which will harmonize with the furnishings of such rooms. Figure 13 illustrates a wall bracket furnishing adequate illumination, while at the same time well shaded, assuring protection to adolescent eyes. The use of a decorative portable equipped with a low wattage lamp is suggested as a night light. The attractive stand lantern shown in this illustration, for example, is left burning throughout the night. While not interfering with the child's slumber, it furnishes sufficient illumination for the performance of necessary duties by the mother or nurse.

BEDROOM RECOMMENDATIONS—Continued

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
31	50 or 75 Watt White Lamp	Where no side wall brackets are provided, install luminaire of this type over bureau or dresser. Glass, parchment, or silk shades may be used to harmonize with other furnishings. Suspend 6 feet above the floor for bureaus or 5 feet above the floor for dressing tables.
32	75 or 100 Watt Clear Lamp	In large bedrooms install a ceiling unit in center of room for general illumination to supplement side brackets. Suspend at least 6 feet 6 inches above the floor. Delicately colored glassware of fairly heavy density is recommended. Use the white diffusing bulb lamps when suspending chains are attached to rim of bowl.
33	25 or 40 Watt All-Frosted Lamps	Mount at ceiling. Where no shades or those of a shallow type are employed, round all-frosted lamps should be used.
 34	50 Watt White Lamp	Mount on headboard of bed, provided with a pull-chain socket and a radium luminous terminal ball.

WIRING

At least one luminaire should be controlled by wall switch adjacent to entrance. Convenience outlets should be located in every wall section for portable lamps. Near bureau or dresser, a convenience outlet should be located waist high for electrical appliances.

Double convenience outlets should be provided between twin beds or at side of single bed for bed lamp and electrical appliances.

A shaded hood similar to Type 34 attached to the head of the bed will be found convenient for reading, limiting the light solely to the spot where it is wanted. Small portable lamps will often serve as useful decoration for bureaus, and as night lamps in the sick room.

Large closets or those not directly illuminated by the bedroom luminaire will require a lamp mounted inside the closet, just above the doorway. These should be controlled by pull chain sockets with the cord hanging conveniently near the side of the entrance.

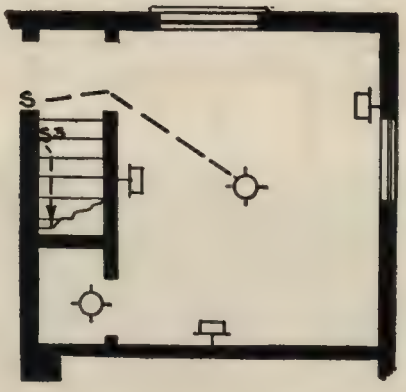
Fig. 13—A double wall bracket with shades of same material as curtains preserves the simplicity of this nursery. The unique night lamp is very appropriate for this room.

SEWING ROOM

Satisfactory lighting of the sewing room requires a moderate value of general illumination throughout the room, with a relatively high intensity over the work itself. For the first requirement, ceiling luminaires similar to Type 35, available with attractively decorated globes, will be fitting and inexpensive. Supplementing this, a portable bridge lamp, Type 36, should furnish additional illumination on the sewing machine or for hand work. The light should be diffused and the source well shielded to protect the eyes when doing exacting and fine work of this character.

A Mazda daylight lamp with the blue glass bulb will facilitate color matching and identification, and is preferred by some as an aid in viewing detail by contrast. For particularly accurate color work, specially designed equipment in the form of floor or table lamps is available, using clear bulbs with color screens to modify the light to an exact daylight quality. Portable lamps in the sewing room should be adjustable as to height and direction, lest, for example, the light that would be shielded from a tall person might yet shine directly into a child's eyes.

SEWING ROOM RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
35	75 or 100 Watt Clear Lamp	Mount at or close to ceiling to provide general illumination throughout the room. In small rooms the open bottom reflector with white lamp may be substituted.
36	75 Watt White or 100 Watt Daylight Lamp	Lamp should be well shielded. Use for lighting hand-stitching or sewing machine work. There should be a swinging adjustment above the socket.

WIRING

A double convenience outlet should be provided for sewing machine, and for the above-mentioned portable lamp. Have at least ten feet of cord for this bridge or floor luminaire.

BATH ROOM

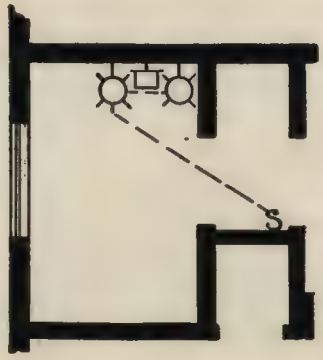
The major lighting requisite in the bathroom is properly directed light of adequate intensity at the mirror. The particular requirement is a well diffused horizontally directed light which will illuminate both sides of the face, secondarily the basin and medicine cabinet. General illumination throughout the entire room will naturally result if it be in the

Fig. 14 — Light from both sides makes shaving in front of this mirror a pleasure. A well located convenience outlet for appliances is provided

customary white finish. These desires can best be satisfied by placing a bracket on each side of the mirror, level with the face or slightly above it.

When a wall bracket, Type 37, is used, sufficient light is directed to the ceiling and walls to illuminate the remainder of the room. The shades or reflectors should be of white smooth diffusing glass. In exceptionally large bathrooms, or where construction requires, a ceiling luminaire, Type 38, should be used to supplement the brackets at the mirror, but cannot supplant them.

BATH ROOM RECOMMENDATIONS



LIGHTING

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
37	25 or 40 Watt Clear Lamp	Locate outlets 5 feet 6 inches above floor, having one on each side of mirror. In a small all-white tiled bath room, two 25-watt lamps may be sufficient.
38	50 or 75 Watt Clear Lamp	Mount at ceiling in large bath rooms or where the construction prevents bracket lights from illuminating the entire room.

WIRING

The wall brackets or center luminaire should be controlled by a wall switch adjacent to the door, and low enough to be reached by a child. A convenience outlet should be located near the mirror for electrical appliances.

LAUNDRY AND BASEMENT

Fig. 15—Good lighting makes work in this laundry a pleasure. The tubs which receive good daylighting are also provided with excellent artificial lighting

The general lighting requirements of the laundry are similar to those of the kitchen. The large laundry can be illuminated by using a Type 39 luminaire on the ceiling if it be some eight feet or more high. This unit produces a diffused general illumination, but should be supplemented at the wash tubs by a unit such as Type 40 or 42. In smaller laundries, one unit of this type should be placed over the tubs and another over the washing machine and ironing board. Daylight Mazda lamps are useful for the detection of stains in the clothes. The furnace and coal bin can be lighted by a unit similar to Type 41, with the controlling switch in a readily accessible location, such as at the head of the stairs.

GARAGE AND WORKSHOP

Good lighting in the garage is a convenience and safety precaution. One luminaire of Type 42 should be located directly over the motor position where it will be most useful. In larger garages several units should be installed, usually one on each side of the car. A hand utility lamp, protected by a wire guard, will be extremely useful for inspection and repair work.

The work bench will be satisfactorily lighted by using at least two luminaires similar to Type 42.

Fig. 16—RLM Dome Reflectors at either end of this work bench assure good lighting for any working position

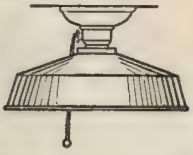
LAUNDRY AND BASEMENT LIGHTING RECOMMENDATIONS

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
39	100 or 150 Watt Clear or Daylight Lamp	For large laundries with fairly high ceilings a luminaire of this type should be mounted at ceiling in center of each room. Have an additional luminaire over the wash tub.
40	100 or 150 Watt Bowl-Enameled or Dayl't Lamp	Provide several of these luminaires throughout the basement, having one over wash tubs and another over ironing board. Unit Number 42 is equally suitable.
41	50 Watt White Lamp	Install at ceiling in front of furnace, equipped with enclosing wire-guard protector. Have an extension cord and shielded lamp for furnace cleaning, coal bin, etc., See Unit Number 43.

WIRING

Convenience outlets should be mounted on wall waist-high for various laundry appliances. Switch controlling furnace light should have pilot lamp and be located at head of cellar stairs.

GARAGE AND WORKSHOP LIGHTING RECOMMENDATIONS

 42	75 White or 100 Watt Bowl Enamcled Lamp	Mount at ceiling so that luminaire will be located directly over the motor of automobile. In workshop locate two of these luminaires on ceiling over work bench.
43	50 Watt Clear Mill-Type Lamp	Equip with protecting wire guard. Use the frosted or white lamp if used frequently.

WIRING

Provide convenience outlet for utility motor and extension light.

PORTABLE LAMPS

TYPE OF LUMINAIRE	MAZDA LAMP	SUGGESTIONS
44	100 or 150 Watt Bowl Enameled or White Lamp in reflector and 25 Watt All-Frosted Lamps in other sockets	Large lamp bulb in this type of indirect portable will provide general illumination throughout the room as shown in figure 3, page 4. Smaller lamps decoratively illuminate the shade and provide local downward illumination for reading and sewing.
45	Three 40 Watt All-Frosted, or Two 50 Watt White Lamps	These junior floor lamps will provide illumination for reading or sewing in the living room, sun-parlor, or bed room. Clear lamp bulbs may be glaring to children and should be avoided.
46	75 Watt White Lamp	The bridge lamp type of portable should have both height and direction adjustment, with deep shade of parchment or silk. Suitable for reading, sewing, and for illuminating card tables and writing desks.
47	50 or 75 Watt White Lamp in reflector and 25 Watt All-Frosted Lamps in other sockets	The upright lamp in this indirect portable, similar to type No. 44, will provide general illumination while the smaller lamps beneath the reflector will furnish local lighting for reading or sewing.
48	Three 25 Watt All-Frosted or Two 40 Watt All-Frosted Lamps	This type of portable will serve as a pleasing decoration and with sufficient light spread will furnish satisfactory illumination for reading and sewing.
49	15 or 25 Watt All-Frosted Lamp	Small portables of this type are attractive features; useful on bureaus and dressers, and as night lights in halls.

IDEAL HOME LIGHTING LAMP BULBS

When the home lighting lamps are adequately shaded, the requisite diffusion and color may often be secured from the glassware or accessory. Nevertheless, there are occasional needs for standard tinted lamps, and almost always the diffusing bulbs will emit a more uniform and more comfortable light.

The all-frosted or white lamps give a soft, well diffused illumination, and when used with proper reflectors, form the ideal lighting combination. The white finish is durable; will not peel or chip and can be washed.

The bowl-enameled lamp is coated on the lower portion of the bulb so that the apparent light source is enlarged, and the rays softened. This results in reducing the possibility of glare to a minimum when open bottom reflectors are used, and prevents sharp shadows.

The daylight lamp gives a white light which approximates daylight in color. The color quality of this lamp makes it very useful where the detection of stains or discoloration is sought. It also serves excellently in the sewing room when colored goods are being worked upon, but is not designed for exact color matching.

Home lighting lamps, such as the flame-tint bulbs, which have the coloring pigments incorporated in the coating, provide delightful color effects, lending warmth to the library or boudoir.

SELECTION OF MAZDA LAMPS FOR HOME LIGHTING

The source of light, of course, is the lamp bulb, and consequently its proper choice is of primary importance in the successful lighting of any home.

When lamps are purchased, the size in watts, style of bulb, kind of finish, and the voltage should be specified. It is extremely important that the voltage rating be correctly stated. Operating lamps at over voltage (115-volt lamps on a 120-volt circuit) will be at the expense of considerably shortened life. On the other hand, lamps burned at under voltage (115-volt lamps on a 110-volt circuit) will incur the sacrifice of greatly reduced light output. The voltage in any particular locality can be ascertained from the central station serving the community. Every Mazda lamp has the voltage rating plainly marked on the bulb.

Adjacent to the voltage marking on the lamp, the wattage is also indicated. This is a measure of the amount of energy which the lamp consumes, a 100 watt lamp consuming just twice as much energy as a 50 watt lamp.

In a Mazda B lamp the filament operates in a vacuum; in a Mazda C lamp the bulb is filled with an inert gas. In 50 watt and larger sizes, the Mazda C lamps are the more efficient.

The correct size and style of lamp for any particular luminaire can be determined by reference to the preceding pages covering each room in the home. The general characteristics and applications of the various styles of lamps are outlined in the following table.

FROSTED ROUND (G BULB) MAZDA B LAMPS: Available in sizes of 15, 25, and 40 watts.

This type of lamp is designed for ornamental service and should be used only in candle-stick or candelabra luminaires, wall brackets, and portable lamps, where appearance is the principal consideration. The so-called mill-type lamp, in the P-19 or 2⅜-inch diameter bulb, all-frosted, sizes of 25 or 50 watts, is suitable in most places where the round bulb lamps fit.

ALL-FROSTED (S BULB) MAZDA B LAMPS: Available in sizes of 15, 25, and 40 watts.

The diffusing coating on the bulb of this lamp softens the brilliancy of the light source. It should be used in pendent brackets, portable lamps or other luminaires where any part of the lamp bulb may be visible. It should also be used in closets and storerooms where no reflectors or shades are employed.

CLEAR (S BULB) MAZDA B LAMPS: Available in sizes of 15, 25, 40, 50 and 60 watts.

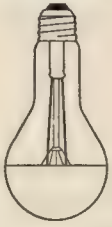
Because the filament is visible through the clear glass bulb, producing a brilliant undiffused light, this lamp should never be used except in luminaires which will totally shield it from direct view. It is for use in totally enclosing glassware, upright shades, or in other equipment where it will be completely shaded. Good lighting cannot be obtained from bare lamps.

WHITE (PS BULB) MAZDA C LAMPS: Available in sizes of 50, 75 and 100 watts.

The white Mazda C lamp is coated with a smooth, washable finish, providing a soft, well diffused white light, eliminating harsh shadows. It should be used in portable luminaires, dining and breakfast room domes, where a brilliant and at the same time glareless illumination is desired.

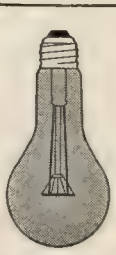
CLEAR (PS BULB) MAZDA C LAMPS: Available in sizes of 50, 75, 100, 150 and 200 watts.

This lamp should be used in totally enclosing globes or diffusing glassware, such as in kitchens, laundries and bathrooms, or in indirect luminaires where the opaque or dense glass bowl adequately shields the lamp from view.



BOWL-ENAMELED (PS BULB) MAZDA C LAMPS: Available in sizes of 100, 150 and 200 watts.

Where the larger wattage lamps are placed in open bottom reflectors as in the workshop or garage, the bowl-enameled lamp should be used. The coating on the lower portion of the bulb diffuses the direct rays and softens the brilliancy of the light source.



DAYLIGHT (PS BULB) MAZDA C LAMPS: Available in sizes of 50, 75, 100, 150 and 200 watts.

The bulb of this lamp is a special blue glass, furnishing light approximating daylight in color. It should be used where color discrimination is desired, in such locations as the sewing room or laundry.

For country home lighting, on battery generator systems supplying 28 to 32 volts, there are available the White Mazda Lamps in 15, 25 and 50 watts; and clear Mazda Lamps in 50, 75 and 100 watts.

THE MAINTENANCE OF LIGHTING EQUIPMENT IN THE HOME

The general types of delicate or inaccessible lighting devices that are too often installed in the home, and the users' innate fear of touching things electrical, have led to a surprising neglect of maintenance and cleaning. Residence lighting fixtures and glassware are usually the kind to which dust adheres easily, and therefore should be cleaned often and at regular intervals, in order that the householder may get all the light for which he pays. It is generally recognized that cleaning the lighting equipment, including walls and ceilings, increases the efficiency of the lighting system. In the home, particularly, there is the added incentive of cleanliness, the aversion to dirt, and coupled with this, the fact that excellent cleaning facilities are available at no extra costs.

Cleaning Metal Fixture Parts

The metal parts of luminaires should be washed at least twice a year, using a soft cloth dampened in warm water and Castile (or a mild, non-abrasive) soap. They should be thoroughly freed from all traces of soap and then dried. After a metal is originally polished or colored in the factory, it is coated with a transparent lacquer which will last several years. This lacquer sometimes is removed by a careless use of acids, and then the metal ought to be relacquered by the luminaire dealer.

Cleaning Glassware

The glassware should be removed from the luminaire and washed thoroughly with mild soap and warm water. It should then be rinsed in warm water and dried. Glass shades used in the pendent position should be washed every month. Shades and bowls used in an inverted position should be washed or wiped out once every two weeks, as they collect dust more rapidly than the shades used in the pendent position. Untinted glassware can be washed in a solution of weak ammonia, to remove grease. Do not leave a soap film on glassware; dust will adhere to it.

Cleaning Lamps

Lamps should be removed for cleaning. This may be satisfactorily accomplished even with the spray-enamel finishes by wiping the bulb with a cloth dampened with warm water. Lamps should never be totally immersed in water. Use a mild grease solvent for stains on frosted bulbs.

WIRING FOR THE HOME

The enjoyment, convenience and safety of electricity is dependent on intelligent and adequate wiring. In the preceding diagrams for each of the various rooms, the number and locations of the necessary convenience outlets and switches have been indicated. These suggestions can be exceeded, however, without being extravagant. The future installation of a few additional outlets is relatively expensive and a thorough initial job will be the most economical in the long run, eliminating the necessity of cords dangling from the ceiling units or draped around the room. All convenience outlets should be receptacles of the type illustrated in Figure 17, taking standard plugs with parallel blades. Double convenience receptacles may be obtained at slightly additional cost and should be used throughout. In locating these, the kind of appliance to be connected thereto should be borne in mind so that they will actually be "convenience outlets."

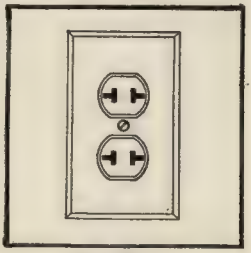


Fig. 17

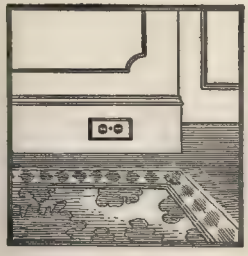


Fig. 18

In the majority of cases the baseboard, Figure 18, will be a suitable and inconspicuous position. However, where appliances are temporarily attached, convenience outlets should be accessible without kneeling down. For example, the vacuum cleaner outlet can be conveniently placed as shown in Figure 19, eliminating the necessity of unscrewing a lamp from its socket, moving furniture, or having to stoop down to the baseboard.

In the dining room, where table appliances will be used, a floor outlet should be provided, bringing the cord up through a seam in the rug. The dining room table and serving table may be equipped with a double convenience outlet inserted in the side of the table or a triple plug convenience outlet block which may be mounted in an accessible place beneath the table without marring any polished surface. These outlets permit the use of several electrical appliances at the same time. Another scheme is to attach a brass shell socket to the cord coming up through the rug, suspending it a few inches below the edge of the table, so that it can be conveniently lifted to an accessible position for connecting the appliance plugs. Similarly, in the living room, an outlet should be located under the center table for portable lamps.

Fig. 19

When a built-in ironing board is installed in the kitchen, it is important that a convenience outlet be near by for connecting the electric iron.

The receptacles in the bathroom and kitchen should also be placed at a convenient height.

As shown in the wiring plan, Page 3, at least one luminaire in each room should be controlled by a wall switch located adjacent to the door. Where there is more than one entrance, 3-way switches are suggested, providing dual control. These switches should be installed, especially in the halls, so the lights on the first and second floors may be turned on or off from either floor. The tumbler type switch, illustrated in Figure 20, is recommended as being easier to operate than the old push-button control. The most accessible location for switches, as shown in Figure 21, is adjacent to the latch side of the door. If marked with a touch of luminous paint, they will be still easier to locate at night without groping around in a darkened room.

Fig. 20

The cellar lights should be controlled by a switch located at the top, and the attic lights by a switch located at the foot, of their respective stairways. These, as well as all convenience outlets, to which electric irons or heating appliances may be connected, should have pilot lights prominently located, indicating when the current is on.

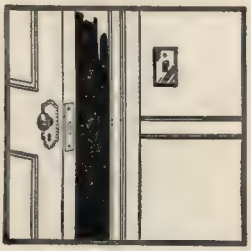


Fig. 21

There is now available a standardized luminaire receptacle known as the Elexit. This device permits the attachment of lighting equipment, either on side walls or ceilings, as readily as hanging a picture. It eliminates the delay and expense of calling on an electrician to make minor changes. The lighting equipment can thus no longer be termed "fixtures," for like furniture, it may be moved from room to room as occasion demands. In rewiring old homes, and in the planning of new ones, Elexits should be installed in sufficient numbers to permit flexibility in the location of the luminaires.

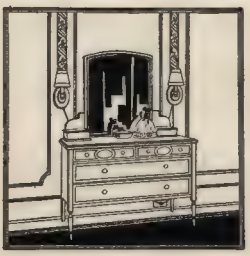


Fig. 22

It is frequently desirable, especially in bedrooms, to provide wall lights which can be moved when the furniture is re-arranged. Figure 22 illustrates how this may be accomplished by the use of brackets suspended with straps from the picture molding. They are connected to a baseboard wall outlet and can either be located as shown on each side of the dresser, or perhaps used over the headboard of the bed.

In wiring the home, a thought should be given to the requirements of radio and an outlet provided near the receiving set in order that electric service will be available for recharging storage batteries.

UNUSUAL HOME LIGHTING APPLICATIONS

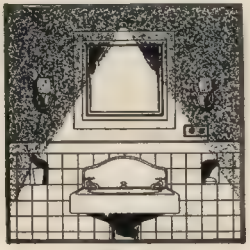


Fig. 23

There are many extraordinary uses of light in the home that may extend its comforts or enhance its beauties.

The small bell-ringing or toy transformer connected to the ordinary lighting circuit will provide a source of low-voltage power, the cost of which is almost negligible. From it may be operated the one or two candle-power miniature Mazda lamps, for all-night lights, equipped with such housings as used on the automobile. These lamps may be convenient at the telephone, the bathroom medicine cabinet, in the nursery, at stairways, halls, or beneath the bed for low intensity illumination of the floor.

There is also the socket transformer, screwing into a standard fixture socket, for the low-voltage miniature lamp.

A miniature Mazda bulb may be operated continuously in an illuminated house number, or placed in a silvered reflector concealed within the dining room dome to direct a narrow beam on a bowl of table flowers.

A novel decoration for any dining room, either for the center of the table, buffet, or serving table, is a bowl of fruit made of glass, or similar ornaments of translucent material. A miniature lamp bulb concealed in the bowl illuminates the fruit and is exceptionally striking.

In the reception hall, or on the library mantle, a unique effect simulating fire within a vase, results from concealing a small colored bulb within the urn or vase.

The sun parlor may be illuminated from wall flower boxes decorated with artificial foliage and having lamps concealed within.

The clock-switch enables the owner to burn a lamp in a lower hall, at the entrance, or elsewhere, when leaving the home, and yet have it turned off automatically at any chosen time.

Inexpensive pilot lights, usually incorporated in the wall switch, indicate when an electric iron or similar heating device is on, or whether a cellar or attic light has been left burning. This may prevent much careless waste of electricity.

Radium luminous tips on toggle switches, or pull-chain sockets, eliminate groping in the dark.

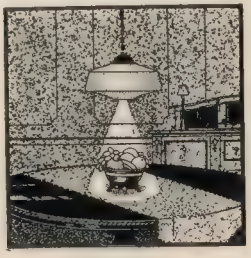


Fig. 24

On cold nights, the extension cord in the garage enables a lamp to be left burning under the hood of the automobile to prevent freezing, or

likewise a small bulb burning close above a basket of flowers or a plant, will maintain a safe temperature.

A small floodlight unit mounted on the driveway side of the house, so that the beam of light is projected towards the garage will serve not only to illuminate the driveway, but also act as a good burglar protection. A floodlight projector mounted by an upper window, or beneath the eaves, may illuminate a terrace or lawn swing for the summer evenings. Insects go to the light source, not to the lighted area.

ECONOMY OF ELECTRIC LIGHTING

The economy of electric home lighting can be illustrated by stating the cost of power for a few of the lighting devices used in the home. The operating cost is based upon a ten-cent kilowatt-hour rate.

	HOURS BURNING FOR ONE CENT	
Night Lamp in Hall, Bedroom or Sick Room (10 Watt Lamp)	10	Hours
Bell Ringing Transformer for Illuminated House Number (2 c.p. lamp)	20	"
Portable with a 50 Watt White Mazda Lamp	2	"
Library Ceiling Luminaire, with three 25 Watt Lamps	1⅓	"
Kitchen Luminaire with a 100 Watt Lamp	1	"

CHOOSING THE TYPE OF LAMP BULB

Although the lighting of a home cannot be considered solely from the aspect of commercial or output efficiency of the lamps because color, warmth and decoration are primary requisites, yet it is advisable to note the advantages of using the Mazda C (gas-filled) lamps in preference to the Mazda B (vacuum) lamps.

The light output of a lamp is measured in terms of lumens. The following table will illustrate the advantages of the Mazda C lamps, from the standpoint of lamp cost and lumen output:

LAMPS	LAMP COST	LIGHT OUTPUT LUMENS
4— 25 Watt S-17 Mazda B Lamps	$1.08	960
1—100 Watt PS-25 Mazda C Lamp	.50	1350
2— 40 Watt S-19 Mazda B Lamps	.54	800
1— 75 Watt PS-22 Mazda C Lamp	.45	900
3— 60 Watt S-21 Mazda B Lamps	.96	1860
1—150 Watt PS-25 Mazda C Lamp	.65	2200

DESIRABLE AMOUNTS OF ILLUMINATION

The artistry of home lighting involves, in addition to the purely decorative features, certain choices of lamp bulbs and luminaires that will afford sufficient amounts of light to insure comfortable vision for reading or work. While good home illumination is not based primarily upon lighting efficiencies, and while the recommendations given for each of the various rooms will lead to adequate intensities, yet it may be well to note the average values of illumination that are considered good for certain operations, or that are found to exist in well-lighted residences.

Values or intensities of illumination are measured in "foot-candles" as readily as the depth of snowfall is measured in inches. When one wishes to know the illumination falling upon any surface, he records or gages it by a device known as a photometer. The Westinghouse Agent in your neighborhood will be glad to have you consult him regarding your lighting problems. Many agents have available a small portable photometer, the Foot-Candle Meter, with which illumination measurements can be easily made in your home.

The following table lists the ranges in foot-candles that represent good average practice.

AVERAGE LIGHTING INTENSITIES

LOCATION	FOOT-CANDLE RANGE
Kitchen	
General Illumination	5 – 10
At Sink or Range	8 – 12
Living Room	
General Illumination	2 – 4
On Sewing or Reading	10 – 15
Dining Room	
Average Illumination on Table Top	10 – 15
General Illumination Remainder of Room	2 – 3
Bedroom	
At Dresser or Bureau	5 – 8
General Illumination	2 – 3
Bathroom	
At mirror, level of face	5 – 10

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